# *Redistribution and Long-Term Private Debt in Paris, 1660–1726*

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Based on a large sample from Parisian notarial records, this article examines the long-term private credit market in Paris in the late seventeenth and early eighteenth centuries and analyzes how it was affected by government-caused redistribution. It estimates the level of private indebtedness from 1662 to 1789, explains the problems the credit market faced, and determines who profited and who lost when government defaults, banking reforms, and currency manipulations struck private borrowers and lenders. It concludes by accounting for the expansion of the credit market in the last half of the eighteenth century.

Thanks to the research of economic historians, we have a relatively clear portrait of financial markets in the late nineteenth century. It is a familiar picture of stock exchanges and of commercial and investment banks, one that has all the clarity of a photograph. But if we look back further into the past, the image loses its familiarity. It blurs as accustomed institutions drop from view. Investment banks disappear, and stock exchanges, although they may exist, limit their trading to government bonds and stocks in semipublic government trading monopolies. Credit grows increasingly personal—a merchant's IOU given to a familiar trading partner, or a prominent financier's loan made to a king.

At the same time, a variety of unusual financial practices come into view, like grotesque shapes in an ancient woodcut, and replace the sober and standardized procedures of the late nineteenth century. In eighteenth-century France, for example, it was not banks that arranged most loans between private parties but notaries. In England goldsmiths did much the same.[1] Governmental borrowing was just as varied. France borrowed short term from financiers and long term by peddling government offices or issuing annuities. England sold annuities too, but by the eighteenth century its annuities were more secure and easier to transfer than France's.[2] Indeed, English government loans were nearly

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[1] Quinn, "Economy."

[2] Velde and Weir, "Financial Market"; and Neal, *Rise*.

risk free and easily sold on an open market. Much the same was true even earlier in the Netherlands.[3] By contrast, in France or Spain, government loans usually carried a considerable risk of default, a risk that would have shocked the nineteenth century.

This picture, it should be stressed, is far from complete, at least as far as early modern Europe is concerned. As yet, economic historians cannot explain why financial practices differed so from country to country. They cannot answer simpler questions either, questions about interest and the amount of money lent. They have gathered some evidence about interest rates, but useable series are still rare, particularly for private loans. They know even less about the quantity of capital mobilized, especially on the private side. And the whole interaction between private and public finance remains dim as well. Historians have sketched the legal institutions governing private credit and highlighted their evolution, but they have hardly begun to trace the effect of government borrowing and taxation on private financial transactions.[4]

Perhaps the largest expanse of empty canvas concerns long-term private credit. Historians know something about short-term merchant credit from the Middle Ages on, from medieval fairs to bills of exchange and the banks and exchanges that cleared merchant debt. They know more about government borrowing both short and long term. Private long-term lending, though, is still a blank before the nineteenth century.[5]

At the time, the predominant instruments of long-term private credit were bills obligatory (*obligations*) and perpetual annuities (*rentes*). The *obligations* were simply IOUs, due in several months or years. They could not openly specify the payment of interest, but evidence suggests that it was paid on the side. The *rentes*, by contrast, could stipulate interest so long as it did not exceed a legal maximum rate. Usually, the rate on *rentes* lay below what was actually paid on *obligations*.[6]

The other key difference between *rentes* and *obligations* involved repayment of the principal. With a *rente*, a lender surrendered his principal in return for a perpetual stream of fixed annual interest

[3] Tracy, *Financial Revolution*.

[4] For the legal institutions, see van der Wee, "Money"; and Schnapper, *Rentes*. One work that does explore the connection between public and private finance in pre-industrial Europe is North and Weingast, "Constitutions."

[5] The evidence here is the relative neglect shown the chief instruments of long-term private credit, *rentes* and *obligations*. See, for example, Ehrenberg, *Zeitalter*; van der Wee, "Money"; and Bouvier, "Vers le capitalisme bancaire." Most of what we know here comes from legal history or from social historians, who treat the *rentes* and *obligations* as predatory usury. For examples, see Schnapper, *Rentes*; and Le Roy Ladurie, *Paysans*, pp. 302–09. Recently, historians have begun to turn to the *rentes* and *obligations*; see, for example, Clark, "Cost"; Hoffman, Postel-Vinay, and Rosenthal, "Private Credit Markets" and "Economie." See also the recent colloquium on early modern credit reported in the November-December 1994 issue of *Annales: Histoire, Sciences Sociales*.

[6] Hoffman et al., "Private Credit Markets."

payments from the borrower and his heirs. He had no rights to demand repayment of the principal, and the annual payments included no amortization. Only if the borrower volunteered to repay the principal would the payments come to a halt. With an *obligation*, on the other hand, the lender demanded repayment by a certain date, and if the lender did not extend the loan, the borrower had to oblige.

Anti-usury law dictated these odd restrictions, and because of them, one might dismiss the *rentes* and *obligations* as archaic and largely irrelevant to economic history. But until banks began to make long-term loans and stock exchanges traded private stocks and bonds, the *rentes* and *obligations* were the sole source of private long-term credit outside the family. They were the only legal way to draft long-term credit contracts and were quite popular.[7]

Here we examine the important market for private *rentes* and *obligations* in seventeenth- and eighteenth-century Paris. We actually estimate how much capital it mobilized and probe its relationship to the market for public credit. Throughout, our focus will be the period between the 1660s and the 1720s—roughly from the beginning of the personal reign of Louis XIV (1661) to the devastation wrought in French financial markets by Scottish projector and financial reformer John Law. We then analyze the private market for *rentes* and *obligations* and explain what shackled its growth. Our next task is to explore how it was shaken by redistribution, particularly near the end of Louis XIV's reign (1715) and during the Law affair (1716 to 1720). Finally, we suggest why it did not experience dramatic growth until well into the eighteenth century and how notaries became its favored intermediaries.

## LONG-TERM PRIVATE CREDIT

The greatest obstacle confronting any study of the *rentes* and *obligations* is the lack of centralized statistics. That is what has kept historians from studying long-term private credit before the nineteenth century. No central authority gathered figures on outstanding debt, and one cannot simply estimate the volume of loans by perusing the papers of a few giant banks, as one might for the nineteenth century. Records do exist, but they are scattered throughout notarial archives: it is there that the *rente* and *obligation* contracts lie buried, along with similar contracts for most long-term government loans.[8] The notaries drew up the loan contracts and other essential documents, and they had the important task of preserving copies of the documents they recorded. They filed the loan contracts in chronological order in the midst of all the other acts they drafted—from leases and property sales to wills,

[7] Hoffman et al., "Economie."

[8] In a forthcoming book we plan to explore the institutional evolution that channelled long-term credit toward notaries and short-term mercantile credit along a very different path.

marriage contracts, and probate records. In Paris, a typical notary might record 500 acts per year; with nearly 120 notaries in the city the problem is clearly the crush of information. The real obstacle is that no comprehensive index exists for notarial records. There are only chronological lists, prepared separately by each notary, of the types of acts he recorded and the parties that were involved. There is thus no simple way to cull the *rentes* and *obligations* from the scores of other notarial acts. Nor is there an easy way to estimate the volume of lending or the levels of outstanding private debt. With public borrowing, one can consult governmental archives, for the government itself often kept separate accounts of the debt issued and retired. With the private *rentes* and *obligations*, though, the only recourse is to sample.

In the face of such problems, we constructed indices of medium- and long-term private credit in Paris based on a sample of 12 notaries. We began by utilizing the chronological lists for the 12 notaries in the sample to count the number of *rentes* and *obligations* that each notary had recorded. Our counts extend month by month for nearly 200 years, from 1662 to 1860, and we made similar counts of the numerous public loans that the notaries recorded. That yielded the number of private and public credit acts for the notaries in our sample, but the chronological lists did not mention the size of the loans. The loan sizes we estimated using periodic cross sections of the actual notarial acts, which also provided information about the duration of the loans. Multiplying the estimated loan sizes by the loan numbers gave us the volume of new loans, which evidence from other notaries allowed us to extend to Paris as a whole. Using information about loan durations and the frequency of loan repayments from the chronological lists and our information about loan durations, we then calculated the stock of outstanding private debt.

The procedure, which is described in greater detail in the appendix, may not at first inspire much trust. But as the appendix explains, we go to great lengths (including taking periodic samples and counts from other notaries) to assure that our 12 notaries were not unusual and that their activity did not deviate from the norm in Paris. The resulting series are in fact quite robust, we would argue, and seem representative of Paris as a whole. That of course is important, for by the late seventeenth century, Paris was the financial capital of France, with Parisian notaries recording most acts of public credit and large numbers of private loans as well.[9] Our series, in short, take the pulse of the biggest long-term capital market in all of France.

What then do the series reveal about long-term private credit in Paris, particularly in the seventeenth century? If we consider the estimated level of outstanding private debt (all the private debt here consists of *rentes* and *obligations* and is calculated both in nominal terms and in

[9] Hoffman et al., "Economie."

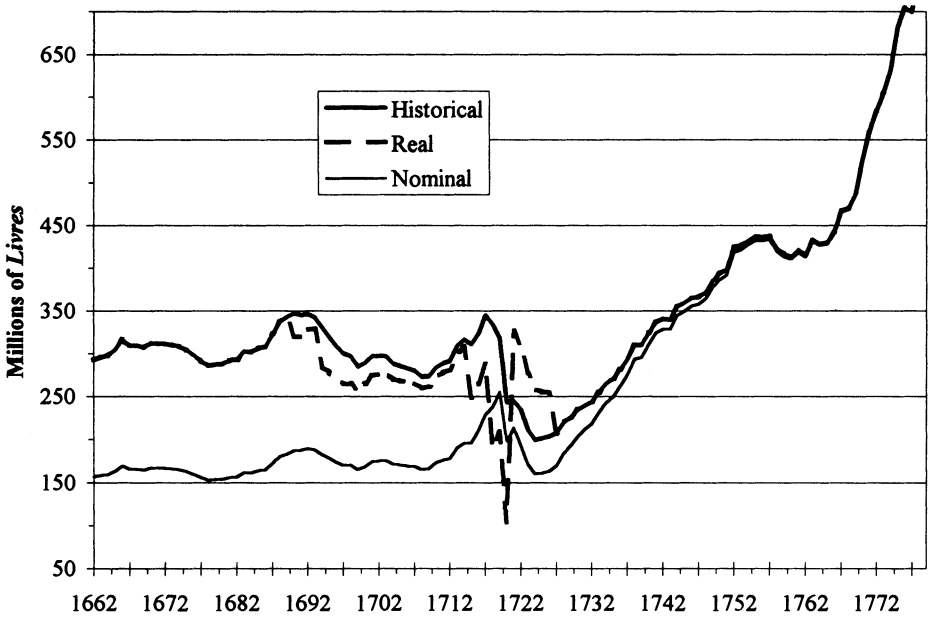


FIGURE 1

OUTSTANDING PRIVATE DEBT LEVELS IN PARIS

*Note*: Nominal, real, and historical debt are defined in the text.
*Source*: See the text.

*livres* of constant silver value, where the *livre* is the French money of account) it clearly varied little before the eighteenth century (Figure 1). Stagnant over the long run in the seventeenth century, it was buffeted severely in the early 1700s and did not recover until the 1730s. Then the shape of the curve changes, and the capital market surges.

To explain the pattern of indebtedness, one might attempt to disentangle supply and demand. Unfortunately, there is no reliable way to do so. We do not know the savings rate, which presumably influenced the supply of credit, and we lack time series of interest rates, which might allow us to tease out the supply and demand for loans via a clever use of instrumental variables. All that we do have is the level of indebtedness (in other words, the quantity of loans) plus periodic observations of the interest rate on *rentes* (Table 1).

Yet there is no reason to despair. We do know that much of the lending was driven by the life cycle. It revolved around older lenders granting loans to younger borrowers, who built houses, established businesses, or purchased government offices. Since nearly all of the borrowers came from Paris itself, we might reasonably suppose that the demand for credit would rise with the number of young people in Paris and with the return on the sort of assets that the young people would

TABLE 1
CONTRACTS: LOAN SIZES AND FUNDS LENT BY INTEREST RATE

| Interest rate (Percentage) | 1662 | 1670 | 1682 | 1700 | 1718–1720 |
|---|---|---|---|---|---|
| | | | Percentage of *Rente* Contracts | | |
| 0–2 | 0 | 0 | 0 | 0 | 11.9 |
| 2–4.9 | 1.5 | 7.8 | 16 | 11.2 | 50 |
| 4.9–5.1 | 26.4 | 92.2 | 82.8 | 87.8 | 37.4 |
| >5.1 | 72.1 | 0 | 1.2 | 1 | 0.7 |
| | | | Percentage of Funds Lent | | |
| 0–2 | 0 | 0 | 0 | 0 | 17.1 |
| 2–4.9 | 3.4 | 18.5 | 38.4 | 26 | 66.2 |
| 4.9–5.1 | 56.5 | 81.5 | 61.6 | 73.9 | 16.6 |
| >5.1 | 40.1 | 0 | 0.1 | 0.1 | 0.0006 |
| | | | Average Loan Sizes (*Livres*) | | |
| 0–2 | 0 | 0 | 0 | 0 | 19,329 |
| 2–4.9 | 11,766 | 8,971 | 12,200 | 10,952 | 17,733 |
| 4.9–5.1 | 11,061 | 3,594 | 3,800 | 3,981 | 5,960 |
| >5.1 | 2,871 | 0 | 600 | 500 | 1,050 |
| | | | Sample Averages | | |
| Average loan size | 5163 | 4017 | 4228 | 4728 | 13,395 |
| Average interest rate (unweighted) | 5.56 | 4.93 | 4.93 | 4.96 | 4.04 |
| Average interest rate (weighted by loan size) | 5.16 | 4.92 | 4.82 | 4.85 | 3.34 |
| Sample size | 202 | 155 | 118 | 98 | 254 |

*Source*: All surviving private *rente* contracts for the years in question taken from the notaries described in the appendix.

eventually inherit and use to pay off their loans.[10] We can fashion a crude measure of the number of young people from the number of marriages in the city. We can do the same for the return on assets using late eighteenth-century estimates of Parisian incomes and information about revenues from the government and local real estate. If we trust such evidence—despite all the uncertainties—then we can argue that demand for credit was probably stagnant or falling gradually until the last half of the eighteenth century, when it finally rose (Figure 2).[11]

[10] For life-cycle borrowing and evidence that nearly all loans went to borrowers inside Paris, see Hoffman et al., "Private Credit Markets."

[11] Decennial totals for marriages were compiled from Charlot and Dupâquier, "Mouvement annuel." The marriage totals were then corrected for missing months using information on seasonality given by Charlot and Dupâquier; the totals do not exist before 1670 or between 1685 and 1709. The index for the income of assets began with Lavoisier's estimates for Parisian revenues in the late eighteenth century ("Résultats," pp. 437–38): 60 million *livres* in revenue from urban real estate, 100 million *livres* from trade and rent on farm land, and 70 million *livres* in net payments from the government. We assumed that income from trade and rent on farm land came

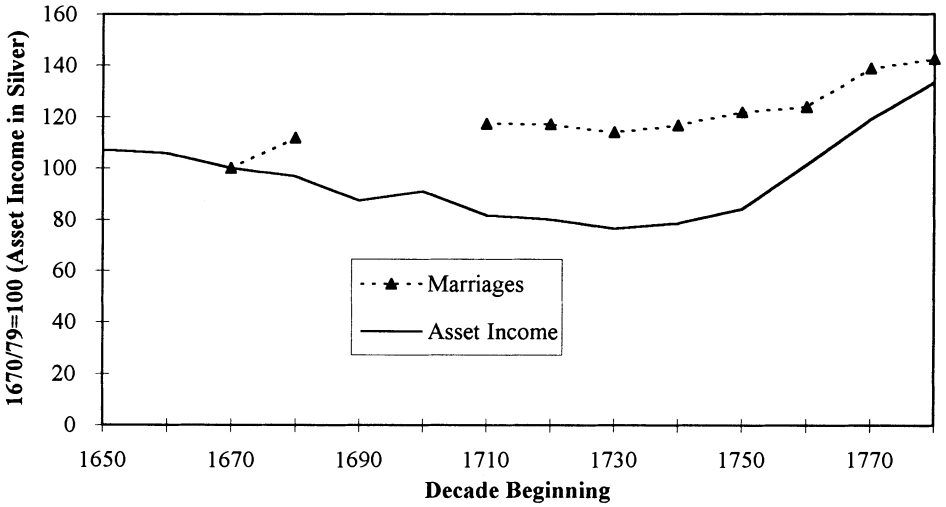


FIGURE 2

MARRIAGES AND ASSET INCOME IN PARIS
(decennial indices, 1650/1659–1780/1789)

*Source*: See the text.

We can also make guesses about supply. In the late seventeenth and early eighteenth centuries, it was probably expanding, albeit slowly. If demand in this period was gradually falling, as seems likely, then a slight increase in the expansion of supply would produce both the stable quantity of loans we observe in Figure 1 and the lower interest rates on *rentes* that we find between 1670 and 1720 in Table 1. We can rule out a more dramatic expansion of supply in the late seventeenth and early eighteenth century, for it would be inconsistent with the stable level of indebtedness and with the general picture we have of the economy in the late seventeenth and early eighteenth century. Paris was growing more slowly then than it would later in the eighteenth century, and the economy as a whole was in the doldrums.[12]

As for supply later in the eighteenth century, it must have risen at a much quicker pace: certainly as fast as demand and probably even faster. The evidence comes from interest rates, which refused to budge

predominantly from local farm land and that net payments from the government paralleled central government tax receipts. We then extended Lavoisier's revenue figures backward using series of urban and rural rents and government tax receipts. Rents on local agricultural land were taken from Hoffman, "Land Rents," table 1, and those on Parisian real estate were borrowed from Ladurie and Couperie, "Mouvement." Central government tax receipts came from Hoffman, "Early Modern France," table 1. Everything was converted to *livres* of constant silver value to allow comparison with the real levels of indebtedness in Figure 1.

[12] Paris grew from perhaps 450,000 in 1650 to 570,000 in 1750, a growth rate of 0.24 percent per year. It jumped to 660,000 in 1790—an annual rate of 0.37 percent. The population estimates here come from a database provided to us by Philip Benedict; see also Benedict, "Was the Eighteenth Century?" One topic we shall pursue in the future is to see whether many of the lenders were Protestants and whether the dip in indebtedness in the late 1670s reflected growing pressure on them.

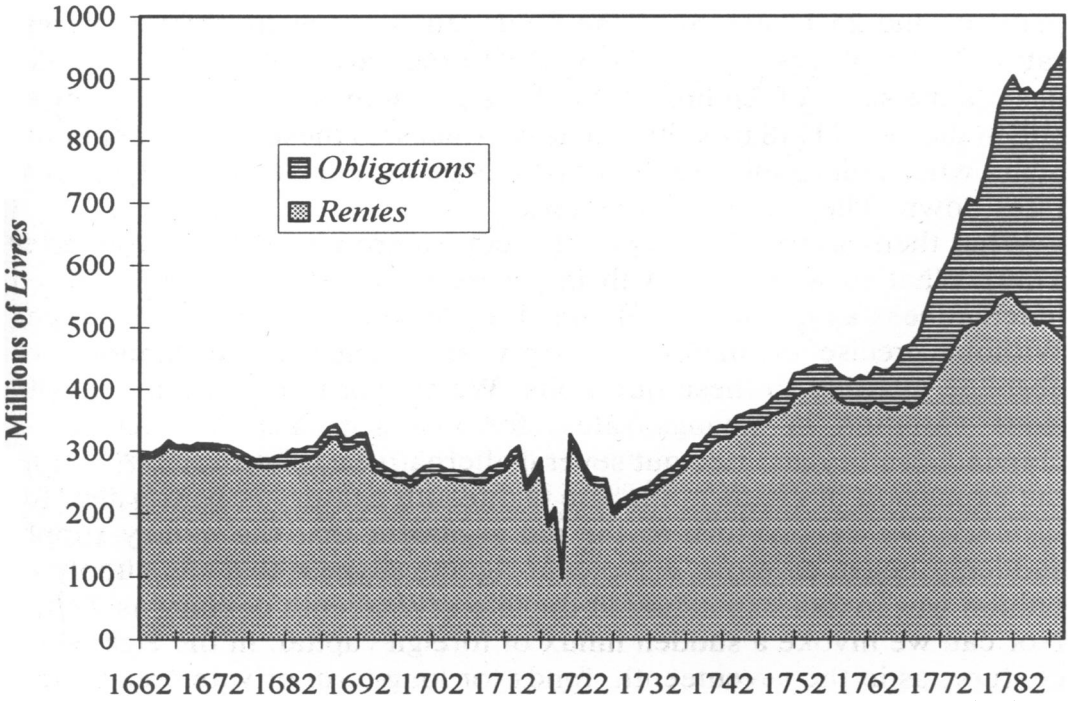


FIGURE 3

REAL OUTSTANDING PRIVATE DEBT LEVELS IN PARIS

*Note*: The figure divides the real outstanding debt series in Figure 1 into *rentes* and *obligations*.
*Source*: See the text.

despite the run-up in the quantity of loans after 1730; indeed, real interest rates in all likelihood dropped. The nominal interest rate on *rentes* remained remarkably stable from 1730 on and showed no signs of rising as the century drew to a close.[13] Given the inflation of the eighteenth century, real rates after 1730 had actually fallen. Lenders were making more loans at lower real interest rates, a clear sign of a surging supply of credit.

Here one could certainly quibble. One might argue that the expansion of credit after 1730 came in the form of *obligations*, which could pay higher rates of interest. But the *obligations* only loom large at the very end of the century, and the level of indebtedness climbs even if they are ignored (Figure 3). In a similar vein, one might contend that the stability of the nominal interest rates on *rentes* after 1730 merely reflected the legal limit on *rente* interest, which remained at 5 percent for most of period 1730 to 1789. But evidence about *rentes* below the interest-rate ceiling belies such a claim. Had the 5 percent limit actually masked an increase in nominal interest rates after 1730, we would expect fewer and fewer *rentes* below 5 percent. Yet in a sample of *rentes* from the years 1730 to 1789, the fraction paying less than 4.9 percent interest was 11.4

[13] Hoffman et al., "Private Credit Markets," table 4.

percent, and 25.1 percent of the funds lent went at these low interest rates.[14] The percentages are essentially the same as in 1670 to 1700, despite the surge of lending (Table 1). True, nominal rates did dip lower still in the years 1718 to 1720, but as we shall see, these were exceptional years when John Law and the government were trying to push interest rates down. They were not the norm.

What then caused the supply of credit to grow so dramatically after 1730? What slowed its growth in preceding years? And what caused indebtedness as a whole to plummet at the end of Louis XIV's reign? Without precise estimates of supply and demand, we cannot give absolute answers to these questions. We cannot rule out some mysterious variation in savings rates, for instance. Yet we can tell a convincing story and rule out several alternative explanations. As far as the expansion of credit in the late eighteenth century is concerned, for instance, we cannot turn to the old argument that the money supply suddenly began to grow, for recent figures suggest that the supply of bullion was in fact expanding in the late seventeenth century as well.[15] Nor can we invoke a sudden influx of foreign capital: in the eighteenth century, as in the seventeenth, funds for long-term private credit came overwhelmingly from within France.[16] And obviously the late eighteenth century did not suddenly bring scores of banks into the world.

A more convincing explanation lies with the problems faced by the seventeenth-century credit market. They suggest what restricted the supply of credit before the 1730s and what fed its growth thereafter. Among the problems perhaps the most serious—and the most important for our purposes—was determining whether a borrower could provide secure collateral. Long-term loans (and especially perpetual annuities, which constituted the bulk of long-term private debt in the seventeenth century) required sound collateral. A borrower might offer specific assets or a general claim on all of his property, but what lenders preferred was extensive real property—land and buildings but also government offices and even other *rentes*. It is no surprise then that most loans went to wealthy nobles and officers (Table 2). They had the real property that would best guarantee a loan.

The difficulty—as always in credit markets—was that a lender could

[14] The 1730–1789 sample is described in Hoffman et al., "Private Credit Markets."

[15] De Vries, *Economy*, pp. 20–23; Morineau, "D'Amsterdam à Séville" and *Incroyables gazettes*; and Glassman and Redish, "New Estimates."

[16] Our notaries left behind the records of 367 loans in 1662, all of them private. Of the lenders, only one was a foreigner, and he furnished only 0.21 percent of the total money lent. Samples from the eighteenth century yield similar results: 0.60 percent of private lenders were foreigners from 1726–1789, and 0.88 percent from 1751–1789. The fraction of money lent was equally small. For the eighteenth-century samples, see Hoffman et al., "Private Credit Markets." In public credit markets, by contrast, foreigners were quite active, just as they were in short-term merchant credit, but even then only after the 1740s. See Lüthy, *Banque protestante*. One might argue that the influx of foreigners in the public market would release capital for private loans, but the private market is simply too large for this to have been the case.

TABLE 2
PROFESSIONS OF PRIVATE BORROWERS AND LENDERS, 1662

| Social Group | Private Lenders | | Private Borrowers | |
|---|---|---|---|---|
| | Percentage of Contracts | Percentage of Funds Lent | Percentage of Contracts | Percentage of Funds Lent |
| Nobles and officers | 43.1 | 68.8 | 44.5 | 74.3 |
| Clergy | 5.2 | 8.5 | 3.3 | 2.5 |
| Merchants and bourgeois | 27.8 | 15.2 | 21.9 | 11.7 |
| Artisans and masters | 11.4 | 4.6 | 9 | 4.1 |
| Professions and independent commerce | 7.1 | 1.2 | 8.7 | 4 |
| Rural | 1.4 | 0.3 | 10.9 | 1.2 |
| Unknown and institutions | 4.1 | 1.3 | 1.6 | 2.2 |

*Note*: Nobles include military officers. Professions and independent commerce include lawyers, doctors, inn-keepers, transporters, and domestics, who in 1662 were generally well-paid servants in noble households. Because of rounding, columns do not sum to 100. There were 367 credit contracts in all.
*Source*: All surviving private credit contracts from 1662 for the notaries are described in the appendix.

not easily observe dealings by a borrower that undermined the value of the collateral and the security of the loan. The collateral might already be mortgaged, and in the case of a bankruptcy, the lender might receive only a pittance after lenders with senior mortgages had been paid. Furthermore, there was no easy way to determine whether property had already been mortgaged, for the earlier mortgage remained a secret between the borrower and the earlier lender. A lender who wished to make a second loan might thus remain unaware of the first mortgage unless he knew the first lender well. Contemporaries were fully aware of the dilemma, and to resolve matters, a 1673 edict sought to create a system of public registration for mortgages. The stated purpose was to render it "possible to make loans with assurance. . . . Creditors will be certain about a debtor's wealth. No longer will they fear that his holdings will decline in value, and no longer will they anxiously watch over his assets."[17] The edict, though, was revoked only a year later. Perhaps it succumbed to the difficulties of establishing new institutions. Or perhaps it fell victim to the contemporary argument that a registry, by revealing the vagaries of private fortunes, would actually destroy the existing system of access to private credit, which was based on a lender's personal knowledge and "opinion" of a borrower and the borrower's "reputation."[18]

A mortgage registry was in fact created for government offices pledged as collateral, but for most private property there was no way of

[17] Clément, *Lettres*, pp. 332–33; Isambert, *Recueil général*, vol. 19, pp. 73–86. Another reason for the legislation was to facilitate sales, and a fiscal motive may have been lurking in the background as well.
[18] D'Aguesseau, *Oeuvres*, pp. 620–23.

knowing whether it had previously been mortgaged.[19] Nor was there any way of preventing a borrower or his heirs from selling part of the mortgaged collateral without the lender's knowledge—an obvious risk with the perpetual annuities. An aggrieved lender could certainly sue and even pursue the purchaser of the mortgaged collateral for a portion of the interest due. Courts, though, were quite expensive, and despite a seemingly favorable legal position, the lender risked getting bogged down in interminable litigation, for the purchaser of the mortgaged collateral could tie up the legal proceedings by going after the seller of the collateral. Nor were these simply theoretical complications. In the late sixteenth century, the Wars of Religion had devastated so many borrowers and crushed so much collateral under multiple mortgages that the noted jurist Charles Loyseau judged *rentes* to be little more than a "will o' wisp right, at bottom just a fragment of parchment." Loyseau was grasping for rhetorical effect, but there is no denying the reality of the problem.[20]

There were still other risks that a borrower might present. Like many tax farmers and financial officials, he might be engaged in what was known as *finance*: he might be borrowing privately and then relending to the state. That was the source of much of the state's short-term debt, particularly in times of war. The trouble, though, was that such *financiers* were often compromised during the government's recurrent financial debacles.[21] A *financier* might, for instance, be brought up short by one of the government's frequent defaults. Or worst of all, he might become the target of a *chambre de justice*, a judicial investigation that could single out *financiers* and tax them to the point of ruin. That was the fate, for example, of the tax farmer François Bossuet; in the early 1660s, a *chambre de justice* seized all of his assets.[22] In cases such as Bossuet's (or in instances when the state defaulted), the *financier*'s private creditors watched their loans sour or had to contend with the state's own claims to the *financier*'s assets.[23] How widespread such predicaments were we can only guess, for many of the private loans to *financiers* were short-term affairs that have left no trace in the archives. Daniel Dessert has argued that private loans to *financiers* were quite common in the seventeenth century, and it is perhaps symptomatic that in the years 1665 to 1673 the Crown moderated its claims on *financiers*' assets in order to protect the *financiers*' own private credit. In any

[19] Bien, "Offices"; and Vilar-Berrogain, *Guide*. It was also possible to keep track of mortgages on certain government *rentes*. See Isambert, *Recueil général*, vol. 19, pp. 83–86.

[20] Loyseau, *Traictés*; Schnapper, *Rentes*, pp. 119–29, 261–80; Dewald, *Formation*, pp. 232–33; Guyot, *Répertoire*, s.v. "Hypothèque" and "Rente."

[21] Dessert, *Argent*, pp. 128–29. Some 18 percent of Dessert's *financiers* went bankrupt; he argues that the true bankruptcy rate was in fact higher, on the order of 20 to 25 percent during a *financier*'s career.

[22] Ibid., pp. 205–06, 743, 771.

[23] Ibid., pp. 124, 143.

event, it would be difficult to predict whether a particular *financier* was likely to run into trouble. The state's defaults were selective, often depending not just on the costs of war but on personal politics. And a *chambre de justice* could punish a seemingly prosperous *financier* for government business he had carried out years earlier.[24]

The state's currency manipulations posed an even greater threat to lenders. Repeatedly the state changed the value of coinage, by fixing a new bullion equivalent for the legal money of account and requiring coins to be reminted. It did so both to profit from mint fees and (since the usual course of action was devaluation) to repay its own debts in depreciated money of account.[25] The effect on private credit markets was severe. In the first place, by the late seventeenth century it was not licit for a *rente* contract to require in-kind payments of interest. Nor could a *rente* or an *obligation* specify payments of a fixed amount of specie, at least in the period that interests us; in any event, by the 1660s both instruments were always stipulated in money of account.[26] As a result, parties to long-term private credit contracts had no way to escape the effects of currency manipulation. And because devaluation was the most likely course of action, it was lenders who shouldered the greatest risk.

As usual, the dangers confronting lenders forced them to charge a risk premium and to vary the interest rate according to the dangers each borrower posed. Such variation in interest rates was precisely what characterized the seventeenth-century *rentes* (Table 1). With the *obligations*, where interest rates were not explicitly mentioned, the charges were probably higher still. There was of course the legal limit to the interest rate that could be charged in private *rentes*: 5.56 percent in the early 1660s, and 5 percent or less thereafter.[27] The law undoubtedly led

[24] Ibid., pp. 203–10, 239–41, 266–70, 341–68, 743, 750, 771; Bosher, "Chambres de justice"; and Hoffman, "Early Modern France." In addition to the *chambres de justice* themselves, there were legal proceedings against individual *financiers*, and the threat of a *chambre de justice* could be used to extort money from *financiers*, as in the period 1656–1661.

[25] We do not deny that devaluation often aimed to address problems of chronic undervaluation of coinage. See Glassman and Redish, "Currency Depreciation." But for our period—and in particular, for the late seventeenth and early eighteenth century—it was the fiscal motive that was paramount, at least in France.

[26] Isambert, *Recueil général*, vol. 15, pp. 270–76 (Edit sur les monnaies, 1602). For the complicated legal history, see Schnapper, *Rentes*, pp. 175–200.

[27] An edict of September 1679 did raise the limit back to 5.56 percent, but it is not clear that it took effect. See Isambert, *Recueil général*, vol. 19, p. 217. Although one could conceivably evade the interest rate limit on *rentes*, it was probably not a common practice. The limit was usually set just above the prevailing market rate on *rentes*, and on the rare occasions when it suddenly dropped enough to constrain the prevailing rate, people stopped using *rentes*. If evasion had been common, they presumably would have continued right along. See Hoffman et al., "Private Credit Markets." Furthermore, it was difficult for a borrower and lender to collude in evading the limit because unlike an *obligation*, a *rente* might continue forever. A borrower might agree, for instance, to pay additional interest on the side, but his heirs could renege. Another strategy—having the lender give the borrower only part of the principal—was difficult too, for it required the collusion of the notary,

to credit rationing, but even without a legal bound on interest rates, we would expect credit to be restricted by the value of a borrower's collateral. The real difficulty was ascertaining what the collateral would actually be worth in the case of default. Would it turn out to be overburdened with senior mortgages? Would the borrower try to peddle it on the sly? Would it end up devoured by law suits and a horde of ravenous creditors? Most important of all, what was the likelihood of the borrower's default?

The solution here was to watch the borrower closely or know him well. One tactic—possible only with *obligations*—was to require repayment of the loan at the lender's first request, a request that would undoubtedly be made at the earliest sign of a borrower's difficulties. The tactic was probably a sign that the lender was keeping the borrower under surveillance. It was quite common for smaller *obligations*, most likely where the loan was risky.[28] Alternatively, it might signal to the lender that the loan posed no threat to the borrower's liquidity. A borrower's willingness to take on such a loan would reassure a hesitant lender.

The same tactic was not available for *rentes*, for there (as we know) lenders could not demand repayment. With *rentes*, lenders tended to restrict their loans to borrowers they knew well such as family members, neighbors, professional colleagues, or those whom they could trust and whose collateral was in their view. They did much the same with *obligations*. In 1662, 45 percent of the loans (both *rentes* and *obligations*) that our notaries recorded involved borrowers and lenders drawn from the same family, neighborhood, or profession (Figure 4).[29] Such personal ties were more common still if we leave out short-term *obligations* that the notaries rarely preserved—the *brevets*. Even these almost always brought together parties who were well acquainted, such as an artisan and one of his clients.[30] And if we consider only loans involving Parisians, the frequency of the personal links rises higher still.

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who was supposed to witness the transfer of the entire principal. See Guyot, *Répertoire*, s.v. "Rente" and "Intérêts."

[28] In our samples, *obligations* demanding repayment at the lender's first request averaged 977 *livres* in 1670 versus 3,396 *livres* for those with a stipulated duration. In 1682, the first-request *obligations* averaged 1,608 *livres* versus 2,962 *livres* for those with explicit durations.

[29] The evidence comes from a reading of all 367 loan contracts that survive for our sample in 1662. Here and below, same family means that the borrower and lender are related by marriage or by blood. Same neighborhood means the same parish within Paris and the same department outside Paris. Persons from departments near Paris (the old departments of the Seine and the Seine-et-Oise) were excluded from the comparison, as were individuals whose residences could not be pinned down to a parish in Paris or a department outside the city.

[30] For examples, see France, Archives Nationales, Minutier Central (hereafter AN MC), *Étude* CXV, 199. The *obligations en brevet* were rapidly repaid: within 0.68 years in 1670 (versus 1.15 years for *obligations* with a specified duration) and 0.47 years in 1682 (versus 1.36 years). They were really not long-term loans at all. Rather, they were short-term credit in an era before the complete development of a commercial code.

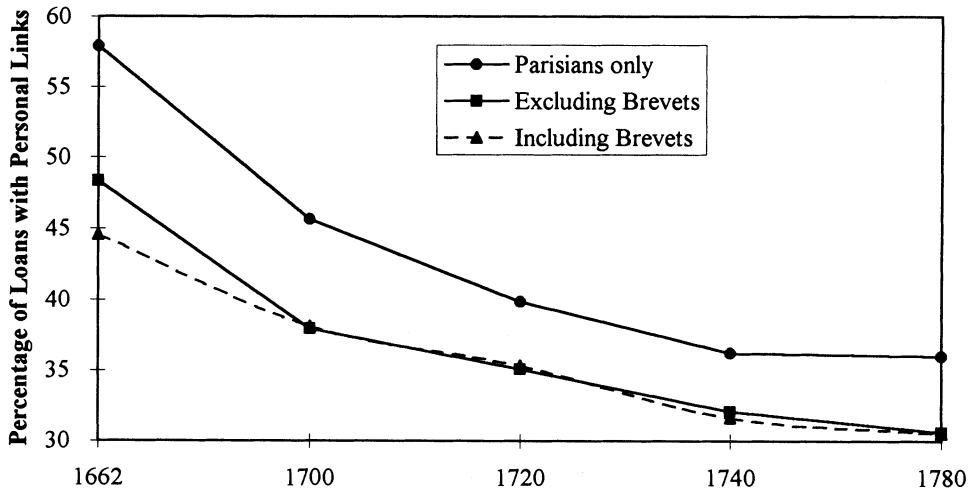


FIGURE 4

PERSONAL LINKS IN PRIVATE CREDIT: FAMILY, PROFESSION, OR NEIGHBORHOOD

*Note*: Loans from the years 1718–1720 have been lumped together here to form one cross section.
*Source*: All surviving loans in our sample of notaries for the years 1662, 1700, 1718–1720, 1740, and 1780.

Defining a personal tie is, to be sure, a bit arbitrary. But whatever the precise definition, lenders who relied on personal knowledge of borrowers were more numerous in 1662 than in the eighteenth century, and the difference is too large to be explained by chance (Figure 4).[31] Even where no personal bond was evident, lenders were likely to have links to a borrower.[32] They limited their loans to relatives, neighbors, professional associates, and other close acquaintances. The practice reflected the difficulties of observing a borrower's actions and of verifying his collateral. The result was to restrict credit, at least relative to the eighteenth century, when lending gradually escaped the bonds of personal relations. Perhaps the long-term private capital market would have flourished earlier had there been an institution that reduced the risks: specialized loan brokers, public registration of mortgages, or banks that would pool lenders' funds. It might have flourished too had the state not compounded the risks by manipulating the currency and bullying its own creditors. But as we shall see, the appropriate institutions did not yet exist, and the state's vicious behavior was inherent in the politics of the seventeenth century.

[31] A logit analysis shows that the greater frequency of personal ties in 1662 was not likely to be a chance result. The evidence here comes from a detailed reading of all surviving credit contracts in our sample for 1662, 1700, 1718–1720, 1740, and 1780.

[32] The tax farmer François Bossuet borrowed, for example, from the *tuteur* of a relative's children: AN MC, *Étude* CXV, 159 (23 October 1662).

## THE IMPACT OF REDISTRIBUTION

Under Louis XIV, the monarchy disrupted both public and private finance, leaving behind both winners and losers. To sift winners from losers, we should first determine how the Crown affected different credit markets and then trace social profiles of the various lender and borrower pools. Yet some of the king's actions had more subtle effects on capital markets, for their incidence varied with risk or loan size. Moreover, because the monarchy intervened repeatedly in capital markets, borrowers and lenders formed expectations about redistribution, expectations that must be taken into account. Accordingly, we begin by sketching the Crown's tactics. We next examine the results of royal policy and determine how different social groups fared. Then, after summarizing the tumultuous history of the Law affair, we analyze state-driven redistribution through the lens of rational expectations.

### *Methods of Redistribution*

Louis XIV's personal reign began in 1661 with a decision that exemplified the Crown's ruthlessness: Louis XIV arrested his superintendent of finance, Nicolas Foucquet, on charges of treason and corruption. Louis then put Foucquet and other major *financiers* on trial in a *chambre de justice*, which used heavy fines to redistribute income from the *financiers* to the monarchy. But the *chambre de justice* was but one weapon in Louis XIV's arsenal, an arsenal to which he repeatedly returned. The problem was that the king loved the glory of war, but when war came, as it frequently did in early modern Europe, it boosted his expenses and debts dramatically. The obvious solution—raising taxes to match expenses—was beyond even Louis XIV's reach. As a result, the Crown (and not just under Louis XIV) cut its debts unilaterally, particularly those incurred in wartime. Whereas its strategy was, broadly speaking, one of selective default, its tactics reached well beyond merely stopping payments on loans. Indeed, it preyed upon capital markets, both public and private, in a variety of ways.

Our focus are the royal policies that affected the long-term market, beginning with the monarchy's attitude towards its own long-term debt. The Crown financed its activities with a mix of short-term and long-term debt. When the short-term debt grew too large, the monarchy transformed part of it into long-term debt through a process of conversion that could be either voluntary or forced. In a voluntary conversion, the Crown floated bonds in the long-term market and used the proceeds to retire short-term debt. But voluntary conversion supposed that the monarchy had access to a cheap supply of long-term funds. When cheap long-term financing was unavailable, the Crown was tempted to force a conversion, as it did in 1698, 1714, and 1720. In each of these instances, the monarchy established a schedule telling how short-term debt would

be converted into long, a schedule that cut both interest and principal. Because the Crown created the schedule, it could discriminate among different classes of creditors. Usually it singled out creditors who held large amounts of government debt and who had bought it on the secondary market, creditors who were typically *financiers*. Yet another possibility was political discrimination—offering different terms to those it sought to protect. Obviously, the *chambres de justice* (tried both in the years 1661 to 1669 and 1716 to 1717) were an extreme form of involuntary conversion. Yet after 1669, conversion most often took the form of a visa in which holders tendered their short-term paper to officials and were given long-term bonds in return.[33]

The forced conversions of the king's short-term debt amounted to default. Although the defaults on the short-term debt were more severe, those affecting the king's long-term loans were also quite significant. Historically, the Crown borrowed at relatively high rates in wartime and then unilaterally reduced the interest payments when peace was restored.[34] After 1688 the monarchy was forced to pay more than 5.56 percent or more for its long-term debt (*rentes*), but with the coming of peace in 1698 it quickly moved to lower interest payments to 5.55 percent and then to 5 percent in 1700. When war resumed in 1701, the Crown again offered interest rates of 5.56 to 6.25 percent to new creditors. After the Peace of Utrecht in 1713, it reduced payments to 4 percent. In this case again, the monarchy would often treat secondary holders of debt (again, often *financiers*) more harshly than initial purchasers, and there were often rumors of protection for the politically powerful.[35]

The defaults and conversions concerned the market for government debt, but the Crown's desperate need for funds made private credit markets an inevitable target as well. Attacking private markets had two advantages. In the first place, it aggravated the uncertainty private lenders faced, thereby reducing the relative risk premium the Crown had to pay because of its sordid history as a borrower. Assaulting private markets also raised revenues directly, and it had the distinct advantage of taking money from the pockets of nobles and other privileged individuals who were exempt from most taxation. Striking private capital, though, exacted a high cost, for it sapped the financial market and, in the long run, the economy as a whole.

[33] The idea that political connections were crucial is the theme of Dessert, *Argent*. Although it is likely that short-term government finance speculation depended in large part on inside information and political connections, the visas tended to be more uniform.

[34] Antonetti, "Colbert."

[35] The data that we have cannot speak to the issue of preferential treatment since it does not allow us to follow individual portfolios over time. While preferential treatment in the short-term market seems fairly clear (see, for instance, Lüthy, *Banque protestante*, pp. 286, 333) it is much harder to establish in the case of long-term debt. One of the rare examples involves the annuities to the Queen of Poland that escaped default in 1700. See Shakespeare, *France*.

The Crown hit private capital markets with two weapons: interest-rate regulations and monetary manipulations. The first weapon made it easier for royal debt to compete with private debt by reducing the maximum interest that could be paid on perpetual annuities. The monarchy progressively lowered the ceiling from above 7 percent to 5 percent between 1601 and 1665. Cutting the maximum interest rate, though, had little effects on either revenues or the debt in the short run, all the more so since the cuts usually applied only to new *rentes* and often came at a time when interest rates were declining anyway. More dramatic results required the second and more drastic weapon of monetary manipulations. It was an obvious option, with an immediate benefit for the Crown and for every other debtor as well. It allowed the monarchy to appropriate revenue both from its creditors and from holders of specie. As we know, the redistribution then spilled over into the private sector (in the 1690s, for example) because it was illegal to specify notarized debt contracts in anything other than the unit of account (Figure 1).

The final flurry of royal attacks deserves special mention. Between the end of the War of Spanish Succession in September 1713 and the end of 1726, the Crown pulled out every arm from its arsenal, over and over again. In 1713 to 1714 and 1721 to 1722 it cut interest payments on the long-term debt by fiat. At the same time it consolidated short-term debts in two visa operations, and it subjected *financiers* to a *chambre de justice* in 1716. It devalued the currency in 1714 and again in 1726. Finally, between October 1719 and October 1720, it introduced pure paper money, which depreciated rapidly. Sadly, this barrage of intervention destroyed the existing long-term financial system, cutting private debt level significantly and public debt even more: the cost of public-debt service plunged by at least 50 percent.

### *Redistribution in the Public Market*

Who then bore the brunt of the monarchy's defaults and predatory attacks? *Financiers* obviously, but who else? The problem is complicated by the lack of information available to most contemporaries about the identity of the likely victims. It is thus difficult to say what actions individuals could take to shield themselves. It must have been obvious that periodic defaults were inevitable. Equally clear was the connection between the end of warfare and the restructuring of the debt. Yet at the same time the Crown provided little information about the state of its finances, and it had great leeway in selecting its victims. Although in the aggregate people knew that a default was coming, its precise incidence was always somewhat of a surprise for most individuals. Moreover, our sources do not reveal what precautions people took to protect themselves.

If we consider first the short-term government debt—a murky area

where systematic records are lacking—then it is likely that *financiers* were the most concerned. They held enormous amounts of it, particularly at war's end, when the threat of government intervention peaked. True, those who escaped attack could convert their short-term debt into more secure land and offices. But even then they were not perfectly secure, for a *chambre de justice* (or the threat of one) might mean a heavy fine that would force them to sell their property. Their involvement in this risky arena of short-term finance probably explains the high rate of bankruptcy among seventeenth-century *financiers*—perhaps as high as 25 percent.[36] The rate of bankruptcy justifies at least in part the high premiums that they charged for their services.

On the other hand, the *financiers* were hardly naive. They knew the details of government operations and were compensated by high interest rates. Whereas some *financiers* clearly suffered, others profited—the brothers Paris, for instance, who administered the visa of 1721 to 1723. As far as the short-term debt was concerned, the defaults thus redistributed a certain amount of wealth not just from the *financiers* to the Crown but among the *financiers* themselves. How much we cannot say.

About the long-term government debt we can say much more. It was in any case the bulk of the state's borrowing, and those who held it lost enormously in the late seventeenth and early eighteenth centuries.[37] Who were these unfortunate souls? If we examine our samples from 1682, 1700, and 1711, a striking phenomenon emerges. In the late seventeenth and early eighteenth centuries, the social and political elites held the bulk of the debt. If we define the elites to be the nobles, officers, and clergy, then they held in excess of 65 percent of the king's bonds in 1682 and even more in 1700. They did subscribe significantly less of the issue of 1711, probably because the elite was by then too heavily invested in government debt, forcing the Crown to seek other lenders (Table 3).[38] In any case, what matters for studying redistribution is the totality of the debt, not just unusual bonds of recent issue. The samples from 1682 and 1700 are thus more likely to represent the bulk of the monarchy's creditors, suggesting that the great losers were the elites.

Clearly, the government's defaults shifted wealth from privileged elites to the Crown. Exempt from much taxation and profiting from the state's largess, the elites nonetheless paid by the late 1600s and did so via default.[39] Earlier, the monarchy had shielded politically sensitive

[36] Dessert, *Argent*, pp. 124–25, 128–29, 143–44. According to Dessert, at the time of the *chambre de justice* in 1716, nearly 45 percent of *financiers* had more than 75 percent of their fortune in "*portefeuille*," most of that being short-term government debt.

[37] Between 1698 and 1722 individual bonds lost more than half of their face value. In the 1690s bonds were issued at above 5 percent, and by 1722 no government bond paid more than 2 percent.

[38] It is also possible, though not likely, that 1711 was peculiar because it was a forced loan. See Dessert, *Argent*, pp. 21, 708.

[39] Many of the state's other creditors in Table 3 were privileged as well—*bourgeois de Paris*, for instance, who were exempt from the *taille*.

TABLE 3
PROFESSIONS OF GOVERNMENT LENDERS, 1662–1711
(percentages)

| Social Group | 1682 | | 1700 | | 1711 | |
|---|---|---|---|---|---|---|
| | Contracts | Funds Lent | Contracts | Funds Lent | Contracts | Funds Lent |
| Nobles and officers | 44.5 | 61.2 | 47.2 | 57.9 | 37.6 | 35.8 |
| Clergy | 5.7 | 4.6 | 9.2 | 8.8 | 3.3 | 2.9 |
| Merchants and bourgeois | 24.8 | 18.1 | 22.3 | 16.8 | 33.3 | 26.6 |
| Artisans and masters | 3.5 | 2 | 5.4 | 3.6 | 8 | 11.6 |
| Professions and independent commerce | 3.8 | 2.8 | 4.1 | 2.7 | 6.1 | 11.1 |
| Rural | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0 |
| Unknown and institutions | 17.5 | 11.1 | 11.6 | 10 | 11.8 | 12.1 |

*Note*: Professions are as in Table 2. Columns may not sum to 100 because of rounding. There were 924 contracts for 1682, 2,138 for 1700, and 213 for 1711.
*Source*: All surviving government loans from 1682, 1700, and 1711 are from the notaries described in the Appendix.

groups who held state debt. When its defaults hit creditors who were too powerful—as in 1648 at the beginning of the revolt known as the Fronde—it eventually recoiled.[40] But by the end of the seventeenth century its defaults struck nearly all the holders of the same long-term bonds the same devastating blow.[41] The novel procedure reflected Louis XIV's long-term success at suppressing revolts, success that rendered far less likely the sort of challenge to default that had marked the Fronde. A more immediate concern was also apparent, for at the close of Louis XIV's reign the desperate state of the treasury ruled out more selective tactics. The Crown simply could not spare sensitive groups who possessed much of the nation's financial wealth. Had it sheltered them, it could not have reduced its debt. Unable to tax them, it grabbed their money anyway via default, and default became a tempting way to siphon money from the tax exempt.[42]

For their part, the privileged were undoubtedly aware of the risk. Yet they lent to the state and did so willingly—after all they could always place their money in the private market, where (at least in the seventeenth century) essentially the same credit instruments were available. That they voluntarily invested in government debt suggests that they were compensated in advance for the defaults via a risk premium, which

[40] Bonney, *King's Debts*; and Hoffman, "Early Modern France."

[41] In the conversion of 1698, all bonds were reduced to 1/18. Since 1682 the crown had marketed bonds at 1/20, 1/18, 1/16, and 1/14; how much of a cut individuals received depended on when they invested. See Shakespeare, *France*.

[42] Here there is not enough space to address the complicated question of the distortions caused by such a tax on the privileged.

explained why the monarchy borrowed more dearly than private debtors.[43]

*Redistribution in the Private Market*

Elites were not the only group affected by government action. Monetary manipulations cut the value of the *livre* by more than 40 percent between 1690 and 1726, redistributing wealth from creditors to all those who owed *livres*, not just the Crown.[44] Precisely who lost the most is not always clear. In the short-term private market, for instance, we are left to grope in the dark, for some short-term credit was undoubtedly stipulated in specie and so unaffected. And in the long-term private market, the losses must be attributed individual by individual rather than by social class. Indeed net interclass capital flows in the private market were a small fraction of total activity. The elites—nobles, officers, and clergy—probably borrowed about as much as they lent in the private market, leaving them all about even (Table 2). If we take the state's debt into account, though, then the elites were probably net lenders, for the state ran a steady deficit and the elites owned the bulk of the state debt. Here the elites clearly suffered as Louis XIV's reign came to a close. The greatest harm was probably done to single women and the aged—members of the elite far more likely to lend than to borrow.[45]

The one measure that left the elites relatively unscathed was the interest-rate cap. Although the elites were in all likelihood net lenders, many of their loans were made to the state and were unaffected by the cap. As for their private *rentes*, a good portion of them were made to other members of the elite, often at rates well below the 5 percent cap that generally prevailed after 1665. The low interest rates were particularly true of the large loans that only the privileged could arrange (Table 1).

Other urban groups were perhaps more sensitive both to monetary manipulations and to variations in the interest-rate cap. Some, such as the merchants and bourgeois, were net lenders in the private market. When the Crown lowered the value of the *livre*, part of their savings went up in smoke. Fortunately, they rarely had much of their fortune invested in long-term financial instruments. In this, they resembled the elites and indeed all social groups except for *financiers*. Elite fortunes, for instance, have been studied in considerable detail, and it was rare that members of the elite put more than 10 percent of their wealth in

[43] Martin and Bezançon, *Histoire*; and Hoffman, "Early Modern France."

[44] Obviously, holders of precious metal could realize a profit from the devaluation, by having their coins reminted. But since the stock of metal was probably small relative to total debt, we neglect this aspect.

[45] Hoffman et al., "Private Credit Markets." The evidence here is from the eighteenth century, but there is no reason to believe that the patterns in the seventeenth century were different.

debt contracts—the *financiers* again being the major exception. The impact of royal default was thus muted. Here though we have an explanation for the long-standing predilection for real estate shown by French elites and other social groups. Its roots lay not in some dark swamp of cultural forces but rather in the need to blunt monetary manipulations.[46]

Merchant and bourgeois lenders did suffer more from interest-rate legislation, for a greater portion of their loans carried high interest rates and would thus be constrained by the legislation. The tiny fraction of loans that were contracted above the legal rate suggests that the legislation was quite effective at limiting interest rates on *rentes*. Here it is worth noting that the 5 percent cap imposed in 1665 did not immediately give rise to financial instruments less constraining than the *rente*. That transition had to await the 1750s—nearly a full century later.

The Crown's tactics affected one final set of credit relations: those linking the city and the countryside. Urban dwellers owned a good deal of rural land, and capital flowed from the city to countryside, as studies of both rural and urban credit markets make clear.[47] Monetary manipulations could disturb not just this intersectoral credit market but the land-rental market as well. It is conceivable, for example, that monetary manipulations prolonged the use of share contracts and in-kind payments in French leases. As for the intersectoral credit market, the consequences of royal policy were severe. Indeed, the monarchy's actions tended to segment the long-term capital markets into separate geographical spheres and limit rural access to urban capital. The reason was that loans made to rural borrowers were small, with interest rates exceeding those on loans to city dwellers. The 5 percent limit on rural *rentes* was too low, given the transaction costs that urban lenders would assume in monitoring a host of small-scale rural borrowers. It would be more profitable to place the same entire sum in a single loan made to a great aristocrat, who could offer better collateral to boot. To be sure, the flow of capital into the countryside was a small fraction of the urban credit volume, and ex-post redistribution in the intersectoral capital market was therefore limited. Yet the limit here was an equilibrium phenomenon, a result of the intervention of the Crown.

### *The Law Affair*

After the Peace of Utrecht in 1713 and the death of Louis XIV two years later, France urgently needed fiscal reform. The economy was drowning in the wake of decades of war. Fear of further devaluation encouraged hoarding. The monarchy proclaimed a visa and a *chambre de justice*, but they brought no fiscal relief. In desperation, the regent

[46] Compare Hoffman, "Taxes."
[47] Rosenthal, "Credit Markets."

(the duc d'Orléans, who ruled for the infant Louis XV) turned to John Law. In 1717 Law gained the right to refashion royal finance via a bank and a trading company that held a monopoly over essential parts of foreign trade. Although the trading company has received considerable attention, for long-term credit markets it is Law's bank that is most important. Almost immediately Law began to print bank notes (*Billets de Banque*) that were legal tender for taxes, though not for private transactions. In the fall of 1719 he waded into a murky scheme to consolidate the debt and put France on paper currency. By October 1720 his empire had collapsed. In its wreckage, scores of private loans had been renegotiated, with outstanding private-debt levels sinking 30 percent (Figure 1). On the public side, the regent took full advantage of the situation, reducing long-term debts by half and short-term debt even more.

Law's plan had been to consolidate the royal debt into shares of his trading company; the shares would return 2 percent interest, and the Crown would pay him 3 percent. Because the crown paid 4 percent or more on its debt, everyone would profit, except of course the owners of the state's *rentes*. To make the scheme work, Law wanted to lower interest rates to 2 percent and then forcibly convert the government debt into shares of his company. With the shares paying a fixed dividend of 200 *livres*, Law needed to lift their price to 10,000 *livres*. He took a number of different steps to boost the value of the outstanding shares artificially. He also inflated the money supply, making the bank notes of his Banque Royale legal tender in October of 1719. Because he issued the bank notes rapidly, their value plummeted.[48]

The collapse of the bank notes' real value opened the door to frenetic renegotiation among private borrowers and lenders. With *rentes* and *obligations* denominated in money of account and bank notes legal tender, creditors had to accept the bank notes in repayment. Many a borrower took advantage of the situation to pay off his debts in Law's depreciated currency. But that was not the only result of Law's scheme. Holders of bank notes with no outstanding debts were eager to lend them out at low rates of interest. They were gambling that Law's notes would be retired soon and that contracts denominated in *livres* would have to be paid in full after stabilization. As a result, interest rates did indeed fall in 1719 and 1720, and redistribution in the private market ended up taking several forms: borrowers paid off old debts in depreciated paper; holders of bank notes lent them out at low interest rates, often so that a borrower could repay old debts; and finally, creditors granted a reduction in the interest payments to avoid repayment in

[48] What Law's reasoning was remains unclear; ongoing research on Law by Antoine Murphy will undoubtedly clarify matters.

depreciated paper. The incentive to reduce indebtedness was so great that in all likelihood few creditors were spared.

Creditors found no shelter in the personal links that girded up the private credit market. Indeed, lenders bound to a borrower by ties of family, neighborhood, or profession were only slightly less likely to suffer repayment in the 13 months between October 1719 and October 1720. Some lenders, such as widows and other women, fared quite poorly. Their incomes plunged. Perhaps one group thrived—large borrowers. They profited from the interest-rate spread that prevailed during the Law affair, some of them even borrowing at 1 percent. The low interest rate was available almost exclusively on enormous loans, making the extent of redistribution dependent on the loan size (Table 1).

### *Rational Expectations and Participation*

The redistribution France experienced frightened its victims. Surely, they sought to flee its grip, for redistribution took the most when it seized its victims unawares or when its clutch could not be escaped. Yet here we have a conundrum. If redistribution was to be avoided, why did Old Regime elites voluntarily enter private and public credit markets? Given the Crown's history, were they not asking to be fleeced?

The conundrum can be resolved if we separate Louis XIV's reign from what happened thereafter. Although significant under Louis XIV, redistribution was never overwhelming. The losses in his reign never exceeded 13 percent of the capital value of private outstanding debts during currency manipulations and 20 percent of the value of any given long-term public debt issue during defaults.[49] Because redistribution was limited and fairly regular, lenders could calculate a risk premium that compensated them for their expected losses. The risk premium permitted them to enter the credit market voluntarily.

The risk premium did not protect them, however, against the drastic measures that followed Louis XIV's reign. From Louis XIV's death through the Law affair, the losses were of a different magnitude and clearly unanticipated. The experience with paper currency was unlike anything in the past, causing private indebtedness to tumble by an unparalleled proportion. It is no surprise that the financial system took years to recover.

## GROWTH IN THE EIGHTEENTH CENTURY

Why then did the supply of long-term private capital finally expand? What was different after 1730? We can only sketch the answer here, but it was clearly not a change in the laws about credit. No new instruments

[49] Those figures were attained in 1694 for private outstanding debts, when the value of the *livre* was brutally reduced, and for public debt in 1698–1700, when the interest rate on a government debt issue of 1697 was lowered from 1/14 to 1/20.

appeared in the long-term private credit market, and the only legal contracts remained the *rentes* and *obligations*.[50] Nor was it the sudden creation of a mortgage registry or of banks making long-term loans.

Did politics unshackle the supply of private credit? Louis XIV was dead, but the Old Regime had not drastically changed. The state still defaulted, and whether the defaults grew rarer depends on the precise definition—a difficult issue both in economic theory and in historical practice.[51] Yet the nature of the defaults did seem to change. Though still selective, they depended less on personal politics and were thus probably easier to anticipate. After the period 1716 to 1717, for instance, the Crown never summoned another *chambre de justice*, the harshest tool for singling out particular *financiers*. The most important political change, though, was that currency manipulation had come to an end: there were no more devaluations until the Revolution.[52] One can debate whether contemporaries actually believed that the threat to the currency had receded. Evidence that they did so comes from political thought, which likened currency manipulation to tyranny in the aftermath of the Law affair.[53] That at least is proof of public awareness and a sign that the political costs of currency manipulation would be steeper than in the past. When similar thoughts found support in the powerful sovereign law courts—the Parlements—lenders had all the more reason to feel reassured, and they could open their purses wider than ever before.[54]

The monarchy may thus have attained enough credibility to coax more money from lenders. Beyond that political change, there was also an institutional difference that helps explain the surge of long-term private credit: the growing role of notaries in the financial market. Although notaries were not bankers, they did serve to match borrowers and lenders.[55] They were skilled intermediaries in a country that lacked banks. In the eighteenth century there is both qualitative and quantitative evidence that arranging loans was a major part of their business. In 1742 it was said that the Parisian notaries were the "holders of the purse strings," the "information gatherers for lenders," who determined where investors placed their money. By the 1780s, the writer Louis-

[50] It is true that the *obligations* were employed in new ways, but the use of *rentes* and *obligations* had changed in the past as well, notably in the sixteenth century. See Schnapper, *Rentes*; Hoffman et al., "Private Credit Markets" and "Economie." We have also glossed over privately issued life annuities, but they had long existed and unlike public life annuities were a minor matter.

[51] Eaton, Gersovitz, and Stiglitz, "Pure Theory." For the difficulties of defining defaults or bankruptcies historically, contrast Bonney, *Kings' Debts* and Dessert, *Argent*.

[52] Calonne did change the gold-silver exchange rate in 1785, but the value of the *livre* in silver remained the same.

[53] Norberg, "Fiscal Crises," pp. 276–82; and Kaiser, "Money."

[54] Norberg, "Fiscal Crises," pp. 280–82; and Potter and Rosenthal, "Evolution."

[55] Legally, one of the essential functions of banks was off limits to notaries, for they were not supposed to pool money taken on deposit. Some did however—a topic we will take up in future research.

Sebastien Mercier could exclaim that the notaries had become "speculators, movers of money" who sought out nothing less than "every possible way to borrow here and to lend there. They are involved in all loans of any size."[56]

What the notaries did was to ease the task of borrowers and lenders. They released credit from the personal ties to which lending had been condemned by fears about collateral. From their work drafting probate records and other contracts, the notaries knew who had money to lend and who had secure collateral. They could put the borrowers and lenders together. Initially their matchmaking may have simply been an endogenous response to the rise in lending, but by providing a more impersonal solution to the problem of collateral, they lifted the credit market higher than it ever would have climbed on its own. They too helped create a secure atmosphere for lending.

At other times and in other places, different intermediaries played a similar role, but in France it was the notaries, perhaps by historical accident. They had survived the Law affair and even profited from it by drafting thousands of acts during the frenzy of borrowing and repayment. They thus acquired further information about potential clients. In the absence of banks, they began to match borrowers and lenders, and as they did so, personal ties between debtor and creditor gradually declined in importance (Figure 4).[57] And as resurgent credit came to dominate their activity, the value of their businesses rose.

The change was not instantaneous. The Law affair was no French Revolution, suddenly ushering in a new world of private credit. It took time for notaries to hone their skills in the private credit market. It took time for private lenders to shed their fears of currency manipulation and other attacks by the Crown. And it took time for other political actors—notably the Parlements—to wield the muscle and forge the ideological chains that could restrain the Crown's predatory inclinations.

[56] Archives Départementales de la Côte d'Or (Dijon), C4565 (15 September 1742); Mercier, *Tableau*, pp. 31–35. For additional quantitative and qualitative evidence, see Hoffman et al., "Private Credit Markets," "Economie," and especially "What Do Notaries Do?"

[57] Another sign of their new role was the fact that lenders no longer came disproportionately from their notary's neighborhood. His practice was no longer confined to his neighborhood or to simply recording business deals arranged by neighbors.

## *Appendix*

The procedure that starts with raw monthly totals and arrives at estimates of the outstanding debt is lengthy and potentially quite sensitive to the inflation process. At all times we have tried to keep the methods as simple as possible. This concern was in part

driven by the limitations of the data, and in part by our desire to avoid exogenous information in constructing our series.

## CREDIT ACTIVITY COUNTS

We began by collecting monthly counts of various credit acts from the indices contained in the Archives Nationales of ten different notarial *études*: numbers IX, XXI, XXVII, XLIII, LXII, LXX, LXXVIII, CXI, CXV, and CXVII. Because one of the *études*, number CXVII, contained the records of two notaries before 1744, we followed both notaries back to 1662. There were occasional gaps in the records of an individual notary, and for the period up to 1690 (when the most gaps occur) we filled the gaps by gathering data from two additional *études*: numbers XLIX and LXXII. To correct for missing data we assumed all notaries were equivalent and simply inflated or deflated our totals to obtain 10 standard notaries. Thus if 12 notaries were present we divided our totals by 1.2. More sophisticated approaches had no significant impact on the series.

## CREDIT VOLUMES

To arrive at volume estimates we assembled large samples of loan sizes for our notaries in the years 1662, 1670, 1682, 1700, 1715, 1718 to 1720, 1725, 1740, 1760, 1780, and 1788. In addition we compiled information on public debt issues in 1682, 1711, and the 1770s. The samples yielded mean values for the size of each type of loan. We then multiplied these means by the monthly counts to derive credit volumes. Between the years when we sampled loan sizes, we simply imputed mean loan sizes by simple interpolation. At first glance, this straightforward method might appear to lead to significant bias, especially if loan sizes were correlated with the number of contracts. But in the nineteenth century it is possible to check the magnitude of the potential bias, for the notarial indices nearly always mention the actual amount of each loan. Fortunately, our method never led to an aggregate error in excess of 5 percent.[58] We thus feel quite confident that our volume estimate accurately reflects our notaries' activity.

Beyond mean loan sizes we made two additional corrections. First, we accounted for variation in the value of the French money of account (the *livre*), by converting it to a *livre* of constant silver weight. Unless stated otherwise, in all our series the *livres* are thus corrected to one worth 4.45 grams of silver. For 1718, 1719, and 1720, when the silver value of the *livre* is suspect, we relied on French-British and French-Dutch exchange rates to make our correction: the procedure used the ratio of the exchange rate in June of the given year to the rate in January 1718. Since neither the British pound nor the Dutch guilder suffered devaluations, most of the difference lay in the decline in the value of the French *billet de Banque*. In the years 1718 to 1720 we also reduced activity levels in *rentes* to take into account lower interest rates. The credit volumes for the period 1718 to 1720 are thus deflated first by an estimate of the value of the *livre* and then by the ratio of the interest rate to 5 percent.

Because lending varied greatly from notary to notary, we gathered extensive cross sectional samples of credit activity for 30 additional notaries in 1670, 1700, 1725, 1751, and 1780. From these samples, we used the private activity indicators—the most stable part of credit activity—to derive inflation coefficients. These coefficients allow us to extrapolate from our sample of 12 notaries and estimate totals for all 114 notaries active in Paris during the seventeenth and eighteenth centuries. Since the cross sections of 30 notaries provide information on 35 percent of all notaries we are quite confident that further sampling would yield little extra information. We can actually confirm that

[58] Obviously for any given notary the error can be much larger; but this is precisely why we collected information from a large sample.

assumption for at least one year—1751—thanks to a special index of all notarial activity in that year compiled by the Archives Nationales.

### FORWARD STOCKS

Although activity counts and volume series are in themselves quite valuable, we needed to aggregate our data further. The problem was that the three loan contracts—the perpetual annuity, the life annuity, and the *obligation*—were all quite different. In particular, they all had different durations. We wanted an indicator that would reflect these differences. We began with a forward stock aggregate, where we simply weighted the volume series for each type of credit contract by the mean duration of that type of loan. Thus a perpetual annuity in the mid-eighteenth century with a mean duration of 12 years received a weight six times larger than an *obligation* with a duration of two years. The forward stock revealed how willing lenders were to participate in long-term credit. But it gave little information about outstanding debt levels, unless one assumed that the market was in a steady state—an assumption that our series roundly rejected.

### OUTSTANDING DEBTS

We then turned to estimating outstanding debt levels. Again we defined a simple procedure. Because all stock series require a starting value, we simply took the forward stock for our initial year. Since the market was remarkably steady in the 1660s, variations in the starting value had little bearing on the series. We also needed a procedure to remove repaid debts. If the demography of debt was simple then the inverse of the duration ($1 / d$) would give a fair estimate of what was repaid in each year.[56] But debts, like human lives, face periodic epidemics that cut short their duration. To account for such drastic events, we relied on variations in the rate of *quittances*, or repayment contracts, in our notarial sample. Unfortunately, the *quittances* were not a perfect indicator of credit repayment. Many *quittances* did not involve credit but rather sales, inheritances, or past business associations. Nor did all credit repayments give rise to a *quittance*, for a creditor could simply return the parchment original to the borrower after having signed it as repaid. Nonetheless, we believed that variation in *quittance* rates did reflect variation in credit repayment rates, so we inflated our repayment series by the ratio of current *quittances* count ($Q^t$) to a moving average of *quittances* ($Q^{*t}$). The repayment rates are thus of the form ($Q^t / dQ^{*t}$).

We ended up by computing three different outstanding debt series (ODS). We began with a nominal ODS, ignoring the effects of variations in the value of the *livre*. We also computed historical ODS, where we only took into account the variation of the *livre* when calculating additions to the credit stock. Third, we computed real ODS, where in each year the outstanding stock is valued at the current value of the *livre*. Nominal ODS is the financial equivalent of capital stock measured without regard for price variation, as one might compute from pure quantity indicators. Historical ODS is the financial equivalent of capital stock valued at historical cost, and real ODS is like a capital stock series where the capital is evaluated at market value in every period.

[59] We established durations in our cross sections.

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